CLAIMS

What is claimed is:

1. A system to process an XML document, comprising:

   a streaming parser capable of parsing an XML document and generating a stream of at least one event, wherein each event can represent a portion of the document;

   a matching component capable of performing matching on an event in the stream and notifying an observer if the event is a match;

   said observer capable of listening for a matching event and passing it to a user object; and

   said user object capable of handling the matching event.

2. The system according to claim 1, wherein:

   the XML document is represented in a hierarchical structure.

3. The system according to claim 2, wherein:

   the hierarchical structure can be a tree with each node containing a portion of the document.

4. The system according to claim 3, wherein:

   the streaming parser is capable of performing a method, comprising:

      traversing the XML tree and adding visited nodes into a data structure;

      processing the nodes in the data structure and generating an event for each node; and

      appending the event to the output stream.

5. The system according to claim 4, wherein:

   the tree can be traversed using a breath-first or depth-first search.

6. The system according to claim 4, wherein:

   the data structure can be a queue.

7. The system according to claim 4, wherein:

   the data structure can be processed using a first-in-first-out approach.

8. The system according to claim 1, wherein:

the matching component is capable of keeping only a portion of the XML document in memory at any given time.

9. The system according to claim 1, wherein:

the matching component is capable of knowing the schema of the XML document and foreseeing the coming events.

10. The system according to claim 1, wherein:

the matching component is capable of performing an expression-based match, which can be an XPath query.

11. The system according to claim 3, wherein:

the matching component is capable of keeping, cloning and destroying the entirety or a portion of the sub-tree descending from a node in the tree.

12. The system according to claim 1, wherein:

the user object is capable of returning the matching event to an XML stream for use by any other component.

13. A method for processing an XML document, comprising:

parsing an XML document and generating a stream of at least one event, wherein each event can represent a portion of the document;

performing matching on an event in the stream and notifying an observer if the event is a match;

listening for a matching event and passing it to a user object; and

handling the matching event.

14. The method according to claim 13, further comprising:

representing the XML document in a hierarchical structure, which can be a tree with each node containing a portion of the document.

15. The method according to claim 14, wherein:

the parsing of the XML document comprises the steps of:

traversing the XML tree and adding visited nodes into a data structure;

processing the nodes in the data structure and generating an event for each node; and

appending the event to the output stream.

16. The method according to claim 15, wherein:

the XML tree is traversed using a breath-first or depth-first search.

17. The method according to claim 15, wherein:

the data structure is processed using a first-in-first-out approach.

18. The method according to claim 13, further comprising:

keeping only a portion of the XML document in memory at any given time.

19. The method according to claim 13, further comprising:

knowing the schema of the XML document and foreseeing the coming events.

20. The method according to claim 13, further comprising:

performing an expression-based match, which can be an XPath query.

21. The method according to claim 14, further comprising:

keeping, cloning and destroying the entirety or a portion of the sub-tree descending from a node in the tree.

22. The method according to claim 13, further comprising:

returning the matching event to an XML stream for use by any other component.

23. A machine readable medium having instructions stored thereon that when executed by a processor cause a system to:

parse an XML document and generate a stream of at least one event, wherein each event can represent a portion of the document;

perform matching on an event in the stream and notify an observer if the event is a match;

listen for a matching event and pass it to a user object; and

handle the matching event.

24. The machine readable medium of claim 23, further comprising instructions that when executed cause the system to:

represent the XML document in a hierarchical structure, which can be a tree with each node containing a portion of the document.

25. The machine readable medium of claim 24, wherein the instructions that when executed cause the system to:

parse the XML document, comprising the steps of:

traversing the XML tree and adding visited nodes into a data structure;

processing the nodes in the data structure and generating an event for each node; and

appending the event to the output stream.

26. The machine readable medium of claim 25, wherein the instructions that when executed cause the system to:

traverse the tree using a breath-first or depth-first search.

27. The machine readable medium of claim 25, wherein the instructions that when executed cause the system to:

process the data structure using a first-in-first-out approach.

28. The machine readable medium of claim 23, further comprising instructions that when executed cause the system to:

perform an expression-based match, which can be an XPath query.

29. The machine readable medium of claim 23, further comprising instructions that when executed cause the system to:

keep only a portion of the XML document in memory at any given time.

30. The machine readable medium of claim 23, further comprising instructions that when executed cause the system to:

know the schema of the XML document and foresee the coming events.

31. The machine readable medium of claim 24, further comprising instructions that when executed cause the system to:

keep, clone and destroy the entirety or a portion of the sub-tree descending from a node in the tree.

32. The machine readable medium of claim 23, further comprising instructions that when executed cause the system to:

return the matching event to an XML stream for use by any other component.

33. A system for processing an XML document, comprising:

means for parsing an XML document and generating a stream of at least one event, wherein each event can represent a portion of the document;

means for performing matching on an event in the stream and notifying an observer if the event is a match;

means for listening for a matching event and passing it to a user object; and

means for handling the matching event.

34. A computer data signal embodied in a transmission medium, comprising:

a code segment including instructions to parse an XML document and generate a stream of at least one event, wherein each event can represent a portion of the document;

a code segment including instructions to perform matching on an event in the stream and notify an observer if the event is a match;

a code segment including instructions to listen for a matching event and pass it to a user object; and

a code segment including instructions to handle the matching event.